P1301/P1405/P1407

User Manual

866-805-6922

Contents

Note
Warning ---------- 3
Product information
Introduction ---------- 4
Features and benefits---------- 4
Specifications ---------- 4

How to use
Power---- ---------- 5
Display ---------- 5
Volume Adjustment---------- 6
Precautions ---------- 6
Sensing Range and Warning Method ------ 6
Notes ---------- 7~8
Maintenance ---------- 9

How to install
Tools ---------- 10
System Components ---------- 10
Installation diagram ---------- 11
Installation Procedure---------- 12
Installation of sensors---------- 12
Wire Connection ---------- 13
Precaution during installation---------- 14
Final testing ---------- 14
Troubleshooting ---------- 14

Warranty---------- 14

Note:

- Please read this manual carefully before using this product.
- This system is designed to be an aid and should not replace the need to drive carefully. Under no circumstances will the manufacturer or supplier accept any responsibility or can be held liable for any direct or indirect, incidental or consequential damage, or for injuries resulting from installing or use of this system..
- Manufacturer or supplier does not warrant the accuracy or completeness of the information in this documentation and manufacturer or supplier reserve the right to alter specifications without notice.
- To the extent permitted by law, manufacturer or supplier exclude all liability, including negligence for any loss incurred in reliance on the contents in this publication.

Warning:

- Please practice reverse parking using different obstacles to test this product's performance.
- Though the minimum detecting distance is 1.15 feet, it is still recommended to keep enough space to stop the car. Considering the cars' inertia, it would be better to stop the car when the distance is shorter than 2 feet.
- The reverse speed should be less than 3 miles / hour.

Products information

- **Introduction**

  The system alerts the driver the distance of obstacles while reversing the vehicle. It includes 4 sensors, 1 waterproof controller and 1 display. The system generates both audible and visual warning.

- **Features and benefits**

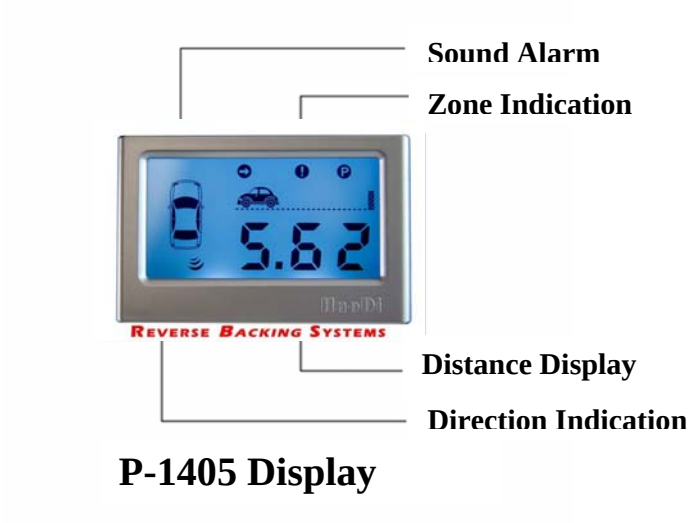
1. Accurate measurement and stable readout
2. High sensitivity, wide detection range and small blind area.
3. Functions include digital display / sound alarm / zone & direction indication / reverse reminder / Self-testing. The outfit of display unit matches the instrument panel of car.
4. Applicable to most cars and easy installation.

- **Specifications**

1. Operation voltage: DC 10V ~ 16V
2. Power consumption: < 4W
3. Operation temperature: -35°C ~ +70°C
4. Detection distance: 1.15 ~ 8.00 feet
5. Display resolution: 0.01feet
6. Detecting error: +/-0.06 feet
7. Detecting rate: 4 times/sec

How to use

P1405 display unit



P-1405 Display

P-1407 Display

- **Power**
  The system is automatically activated when the reverse gear is engaged. Self-testing program will be done right after the system is powered on. After the buzzer beeped and the direction indicators on, the system is ready.

- **Display**

1.28 ----- Distance between sensor and obstacle.

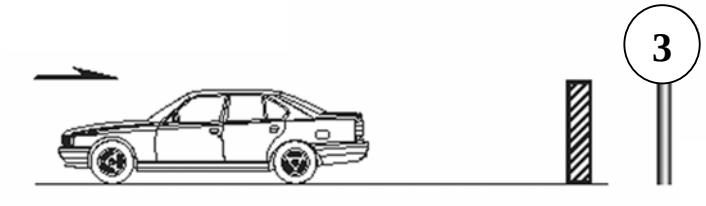
----- Indicate the closest obstacle direction using flashing LED or icon.

----- Indicate zone stage with a pointer or car icon.

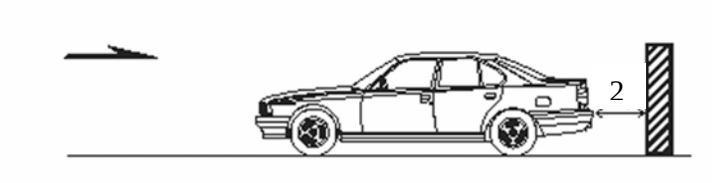
- **Volume Adjustment**

  There are two volume levels. The switch is on the back cover of display unit.

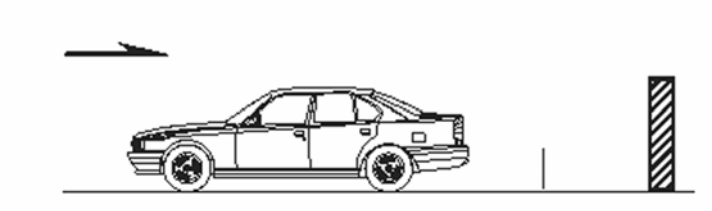
- **Precautions**



Reverse speed should be less than 3 miles / hour to avoid accidents and give you a chance to respond to backup sensor

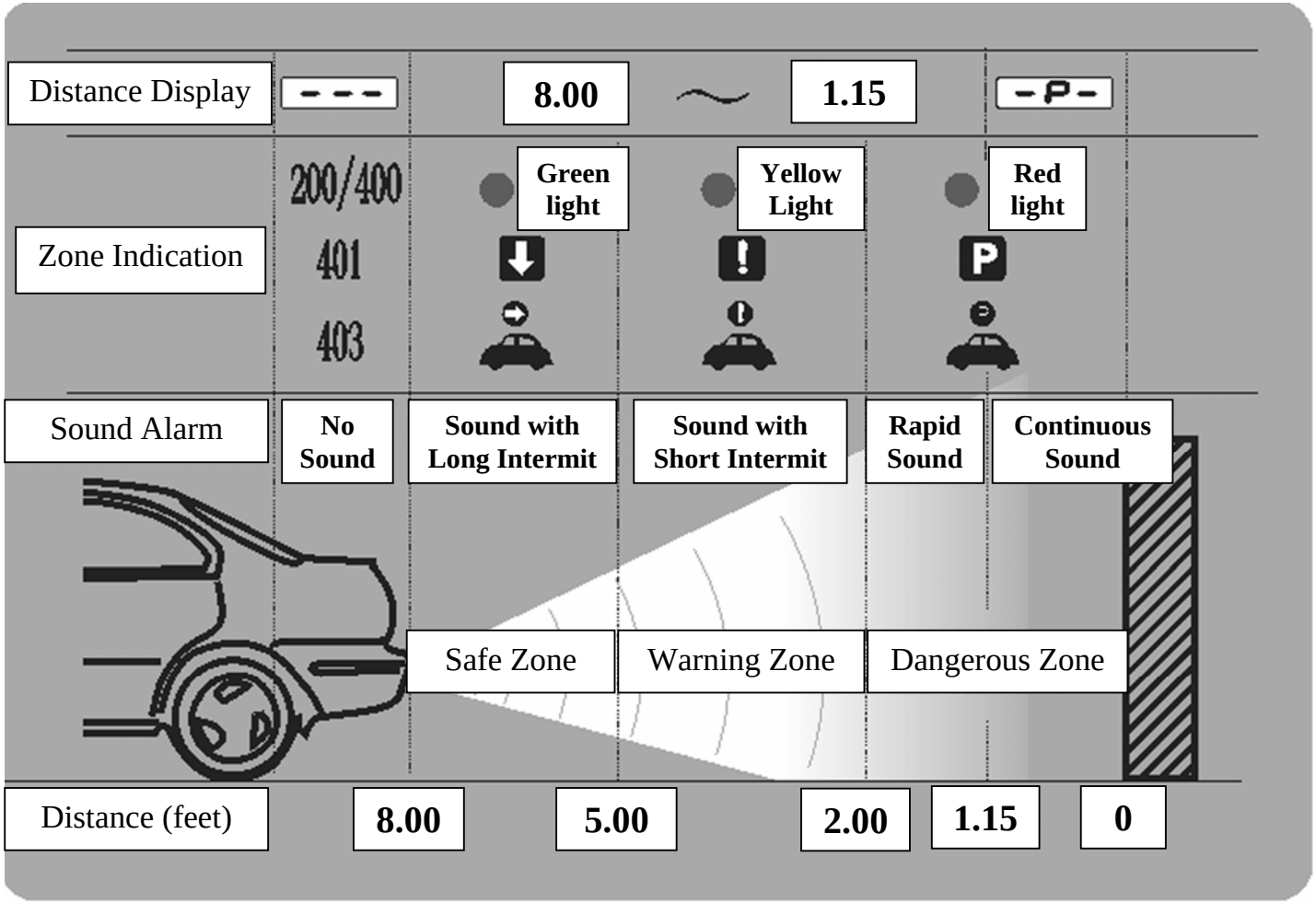


Danger zone start 2 feet away from obstacle



Thin and small obstacles can be detected at shorter range only

- **Sensing Range and Warning Method**



- **Notes**
  Please check the condition behind your car before reversing. In some cases, the display may be not as same as the reality due to the sensor position, obstacle shape, reflection condition and so on. Some examples are given below.

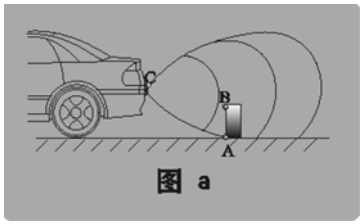


图 a

1. As B is under the level of sensors, and A is a strong reflecting point, the distance of CA will be shown first. When the obstacle is within the blind area, both A and B will not be detected. This will occurs when the obstacle is lower than the level of sensors.

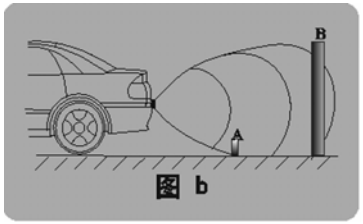


图 b

2. Due to obstacle A is pretty short, so during reversing, the distance between sensor and obstacle A shown first. After obstacle A is within blind area, the distance between sensor and obstacle B will be shown.

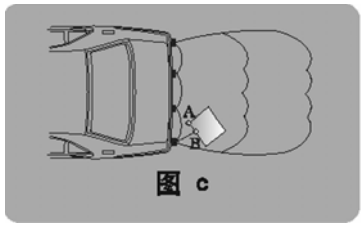


图 c

3. Though A is closer to the car than B, the distance from sensor to point B is shown.

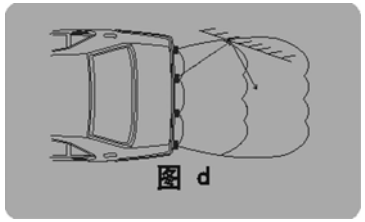


图 d

4. In case of small angle of incidence to the obstacle, such as glass or other smooth plane, the obstacle is not detected.

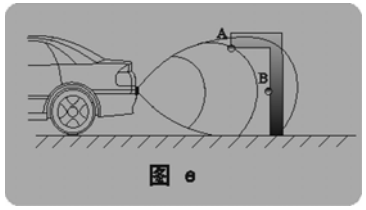


图 e

5. B will be detected sooner or later, but A may not be detected at all.

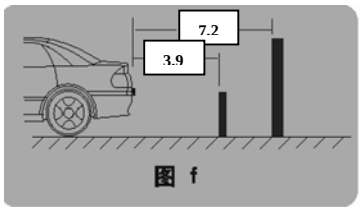


图 f

6. The reading may moves up and down between 3.9 feet and 7.2 feet because the low obstacle A is at the critical detecting point. The reading will be stable after a little bit closer to the obstacle A.

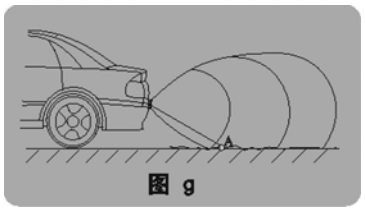


图 g

7. On certain conditions, for example, in case of rough ground, ground might be detected instead of object “A”.

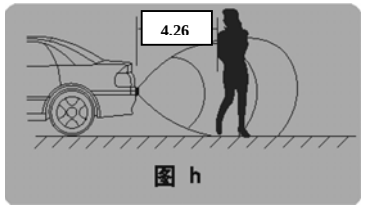


图 h

8. Not all obstacles is detected from 8 feet. for instance, a person is detected from 4.26 feet because of the weak reflection of clothes.

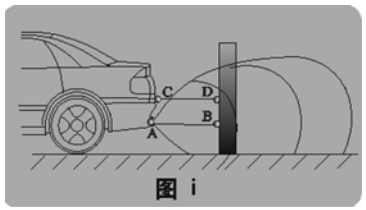


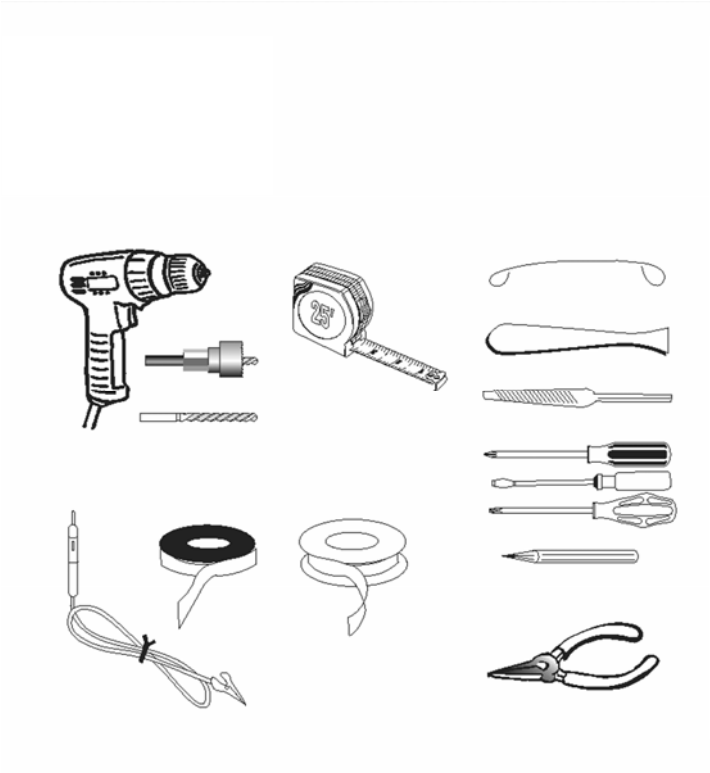
图 i

9. The distance form sensor A to B, rather than C to D, is shown.

- **Maintenance**
  (1) Clean up the sand, ice, snow or any other dirt on sensors’ surface timely.
  (2) Re-paint is allowed on sensors’ surface with slight coat. However, extra thick paint may affect detection.

How to install

- **Tools**



- **System Components P1405**

REVERSE BACKING SYSTEMS

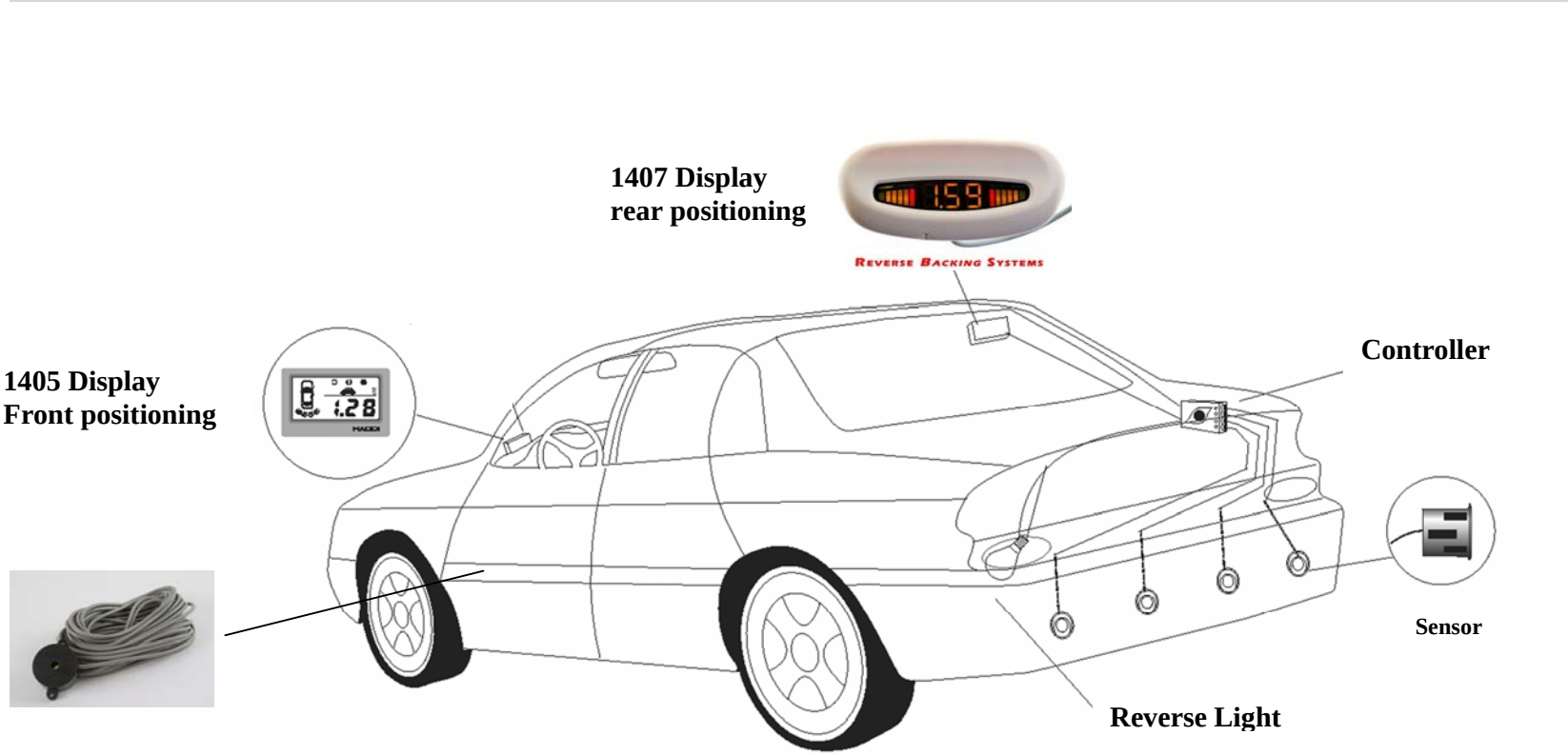
- **System Components P1301**

REVERSE BACKING SYSTEMS

- **System Components P1407**

REVERSE BACKING SYSTEMS

- **Installation diagram**



Installation procedures

Sensor positioning

Sensors are installed on the position in accordance with the diagram

Interval of sensors

Mirror symmetry horizontally

Drill-holes

Make holes in bumper with included drill bit

wiring

Making connections with assistant tools. Make sure the recessed sensor surface facing upwards slightly while keeping the whole sensor body horizontally

Display unit installation

Plug display unit into its pedestal and adjust it to suitable position. The mounting surface must be clean.

Controller installation

The position of controller should be appropriate to both sensors and display Unit.

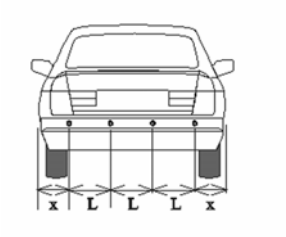
Connection

Connect the controller to +12V power supply, sensors and display unit.

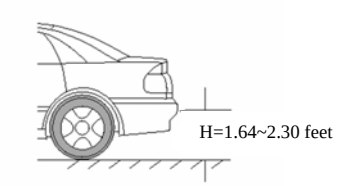
Test

To check if the parking assistance system works properly.

- **Installation of sensors**



(1) Horizontal position
X=0.66~0.98 feet
Same height, equally distributed

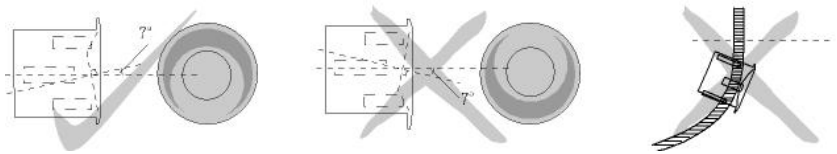


(2) Vertical level

The surface to install sensors need to be vertical and flat

.

(3) Direction of sensor



- **Wire Connection**

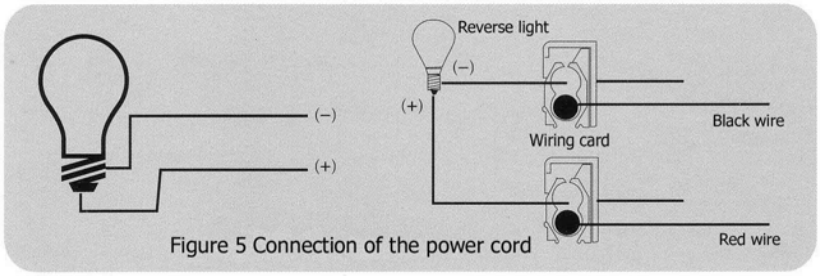


Figure 5 Connection of the power cord

Connect the red wire of controller to the reversing light's positive, and the black to the negative. The wiring card usage refers to the following diagram.

Note: The E-shape contact must be fully pressed.

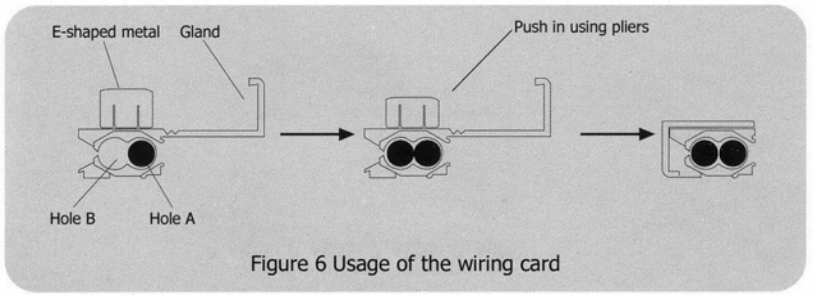


Figure 6 Usage of the wiring card

- **Precaution during installation**

1. Do not scratch the surface of bump during drilling holes
2. Do not cut or damage the wire in any circumstance.
3. Make sure the power cable is connected correctly. The controller should be secured in a water proof location.
4. The surface to mount the display must be clean
5. Make sure all the connection is correct before final testing; Any problem could refer to the "Trouble shooting" section

- **Final testing**

1. Use one selected object to test the sensing distance and warning as stated in page 7
2. Use one selected object to check if each sensor is in the right position.
3. If the system detected something which is not existed, adjustment is needed for the controller. (peel off the "QC" label in the back of controller, screw anticlockwise until the signal cleared out)

- **Troublehooting**

Problem	Possible Causes	Resoluton
No display during reversing	a. No power b. Display unit is not connected to controller properly	Make sure all the connection is correct
Wrong orientation indication	The sensor's position is wrong	Change sensors' position
Constantly display "—p—"	An object within 0.89foot is detected all the time	Adjust the sensors' position or angle
Display a fixed distance	a. Ground is detected b. Sensors' direction is wrong	Adjust the sensors' position or direction
Orientation indicator not on	Sensor's connector is not plugged in properly or is plugged in while power is on	Check if the connector is firmly connected Then witch on power again

Warranty

- 1 year
- Any physical damage will void the warranty